

Applicants : Donald F. Hooper et al.
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Filed : November 13, 2003
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Attorney's Docket No.: INTEL-006PUS
Intel docket #: P17384

AMENDMENTS TO THE DRAWINGS:

The attached eighteen replacement sheets of drawings include changes to FIGS. 1 to 16 and replace the original nineteen sheets including FIGS. 1 to 16.

In addition, the replacement sheets include changes to FIGS. 2, 4, 5 and 6 as follows:

In Figure 2, "Transfers" in element 64a is amended to "Transfer," Neighbors" in element 74 is amended to "Neighbor," "neighbors" is amended to the singular form in "From previous neighbors ME" and "To Next Neighbor Regs (in next neighbor ME)" and reference numbers "75a" and "75b" were amended to "76a" and "76b" respectively.

In Figure 4, "M" is amended to " μ " in elements 106 and 108.

In Figure 5, "Code" is amended to " μ Code" in elements 106.

In Figure 6, reference number "159" is amended to "154."

Attachments following last page of this Amendment:

Replacement Sheets (eighteen pages)

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REMARKS

Claims 1 to 27, are pending in this application; of which, claims 1, 20, 23 and 26 are the independent claims. Favorable reconsideration and further examination are respectfully requested.

The Examiner objected to the drawings. Applicants have made the Examiner's recommended changes to the foregoing amended drawings except Applicants believe the Examiner reversed the numbers in suggesting amending "76a" and "76b" to "75a" and "75b" respectively. Applicants request withdrawal of the drawing objections.

The Examiner objected to the specification. Applicants have made the Examiner's recommended changes to the foregoing amended specification. Applicants request withdrawal of the specification objections.

The Examiner objected to claims 9 to 17, 19, 25 and 27. Applicants have made the Examiner's recommended changes to the foregoing amended claims. Applicants request withdrawal of the specification objections.

Claims 14, 19 and 25 were rejected under 35 U.S.C. § 112, second paragraph. In claim 14, Applicants have amended "physical register" to "physical address," in claim 19, Applicants have amended the term "microcode is" to "instructions are" and in claim 25, Applicants have amended "first window" to "window." Applicants request withdrawal of the § 112 rejections.

Claims 1 to 9 and 18 to 22 were rejected under 35 U.S.C. § 102(b) as being anticipated by Wilmot (U.S. Patent Number 5,974, 538). Claims 10 to 14 were rejected

under 35 U.S.C. § 103(a) as being obvious over Wilmot in view of Celtruda et al (U.S. Patent Number 5,148,538 hereinafter "Celtruda"). Claims 15 to 17 were rejected under 35 U.S.C. § 103(a) as being obvious over Wilmot in view of Swoboda et al (U.S. Patent Number 5,564,028 hereinafter "Swoboda").

Claim 1 is directed to a method that includes receiving a user selection of a first instruction from a list of instructions that executed during a processor simulation and tracing an operand in the first instruction directly to a use of the operand in a second instruction in the list of instructions by following operand dependencies between such first and second instructions.

The applied art is not understood to disclose or to suggest the foregoing features of claim 1. In particular, Wilmot does not disclose or suggest receiving a user selection of a first instruction from a list of instructions that executed during a processor simulation.

Wilmot discloses a method for forwarding operands directly between instruction operands in a computer central processing unit (See Abstract of Wilmot). Wilmot does not disclose or suggest receiving a user selection much less receiving a user selection from a list of instructions. Furthermore, Wilmot does not mention processor simulation much less a list of instructions from a processor simulation. Applicants respectfully request clarification as to the portion of Wilmot that the Examiner relies upon to teach a user selection and a processing simulation. Based on the foregoing reasons, Applicants submit that Wilmot does not disclose or suggest receiving a user selection of a first instruction from a list of instructions that executed during a processor simulation.

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Amended Claim 20 is an article claim having corresponding features to claim 1.

Applicants submit that the Wilmot reference should also be withdrawn with respect to claim 20 for at least the same reasons as claim 1.

Claim 20 is yet further distinguished from Wilmot. Claim 20 includes the feature that tracing includes determining attributes of the first instruction selected by the user and using the attributes of the first instruction selected by the user to find the second instruction. As indicated above Wilmot does not disclose or suggest a user selection.

Furthermore, claim 20 is further distinguished from Wilmot because claim 20 includes the feature that determining attributes includes using a program counter value to look up the attributes in an instruction operand map that provides attributes of each instruction, including instruction type and type of registers used by such instruction type for operands and to determine for each type of register a physical address. Wilmot states that "it may be desirable to treat the program counter (PC) as a register type operand" (see column 6, lines 1 to 5 of Wilmot). Applicants respectfully points out that this has nothing to do with using a program counter value to determine for each type of register a physical address (emphasis added). Wilmot never mentions program counter values, but is merely indicating that a program counter itself may be a register type operand.

Claim 26 and 27 were rejected under 35 U.S.C. § 102(e) as being anticipated by Muratori.

Claim 26 is directed to a device that includes at least one line card for forwarding networking data to ports of a switching fabric. The at least one line card includes a network

processor including multi-threaded microengines each configured for execution with a microcode. The microcode includes a microcode developed using a debugger tool that allowed tracing of operands in code lines of the microcode once executed by a simulator simulating operation of the network processor.

The applied art is not understood to disclose or to suggest the foregoing features of claim 1. In particular, Muratori does not disclose or suggest that the microcode includes a microcode developed using a debugger tool that allowed tracing of operands in code lines of the microcode once executed by a simulator simulating operation of the network processor.

Muratori does not mention operands. The Examiner has cited Figures 3 and 6 and column 4, lines 16 to 28 as support that the microcode developed using a debugger tool that allowed tracing. Neither the support pointed to by the Examiner nor any other portion of Muratori discloses or suggests operands much less microcode developed using a debugger tool that allowed tracing of operands in code lines of the microcode once executed by a simulator simulating operation of the network processor. Therefore, Muratori does not disclose or suggest that the microcode includes a microcode developed using a debugger tool that allowed tracing of operands in code lines of the microcode once executed by a simulator simulating operation of the network processor.

Claims 23 to 25 were rejected under 35 U.S.C. § 103(a) as being obvious over Muratori et al. (U.S. Patent Number 6,611,276 hereinafter "Muratori") in view of Lindsey et al (U.S. Patent Number 5,896,536 hereinafter "Lindsey").

Amended claim 23 is directed to a storage medium having executable instructions stored and configured to be executed by a processor. The executable instructions include executable instructions to render a window having a view of microcode instructions that executed on a processor simulator during a simulation and for which a simulation history has been collected by the processor simulator. The executable instructions to render a window having the view includes executable instructions to provide a tracing option in a menu presented to a user for one of the microcode instructions as an instruction of interest. The tracing option is usable to trace any variable used by the instruction of interest in the simulation history directly to a second instruction in which a most recent change to or next use of such variable occurred. The executable instructions further include executable instructions to receive a user selection of the instruction of interest and trace an operand in the instruction of interest directly to a use of the operand in the second instruction of the microcode instructions by following operand dependencies between the instruction of interest and the second instruction.

The applied art is not understood to disclose or to suggest the foregoing features of claim 1. In particular, neither Muratori nor Lindsey disclose or suggest executable instructions to receive a user selection of the instruction of interest and to trace an operand in the instruction of interest directly to a use of the operand in another instruction of the microcode instructions by following operand dependencies between the instruction of interest and the other instruction.

As indicated above Muratori does not mention operands. Therefore, Muratori does not disclose or suggest executable instructions to receive a user selection of the instruction of interest and to trace an operand in the instruction of interest directly to a use of the operand in another

instruction of the microcode instructions by following operand dependencies between the instruction of interest and the other instruction.

Lindsey includes a window indicating trace options. However, like Muratori, nowhere within the Lindsey reference is operands disclosed or suggested. Therefore, Lindsey does not disclose or suggest executable instructions to receive a user selection of the instruction of interest and to trace an operand in the instruction of interest directly to a use of the operand in another instruction of the microcode instructions by following operand dependencies between the instruction of interest and the other instruction.

Accordingly, for at least the reasons indicated above, even if Murotori were combined with Lindsey, the resulting hypothetical combination would not disclose or suggest executable instructions to receive a user selection of the instruction of interest and to trace an operand in the instruction of interest directly to a use of the operand in another instruction of the microcode instructions by following operand dependencies between the instruction of interest and the other instruction.

For at least the foregoing reasons, Applicants request withdrawal of the art rejections.

Applicants submit that all dependent claims now depend on allowable independent claims.

It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for withdrawing the prior art cited with regards to

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any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

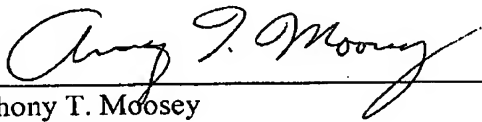
Applicants submit that the entire application is now in condition for allowance. Such action is respectfully requested at the Examiner's earliest convenience.

All correspondence should be directed to the address below. Applicants' attorney can be reached by telephone at (781) 401-9988 ext. 23.

No fee is believed to be due for this Response; however, if any fees are due, please apply such fees to Deposit Account No. 50-0845 referencing Attorney Docket: INTEL-006PUS.

Respectfully submitted,

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